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Abstract

Chromosome analysis was performed on cells from a patient of null cell lymphoma, well-differentiated type. A 14q12 translocation was observed in all the banded cells. In addition, there were multiple chromosome abnormalities. This case will be useful in considering the significance of the 14q1(1-3) translocation in malignant lymphoma disease.

KEYWORDS: malignant lymphoma, chromosome analysis, 14q12 translocation.

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— BRIEF NOTE —

14q12 TRANSLOCATION IN A NON-BURKITT LYMPHOMA

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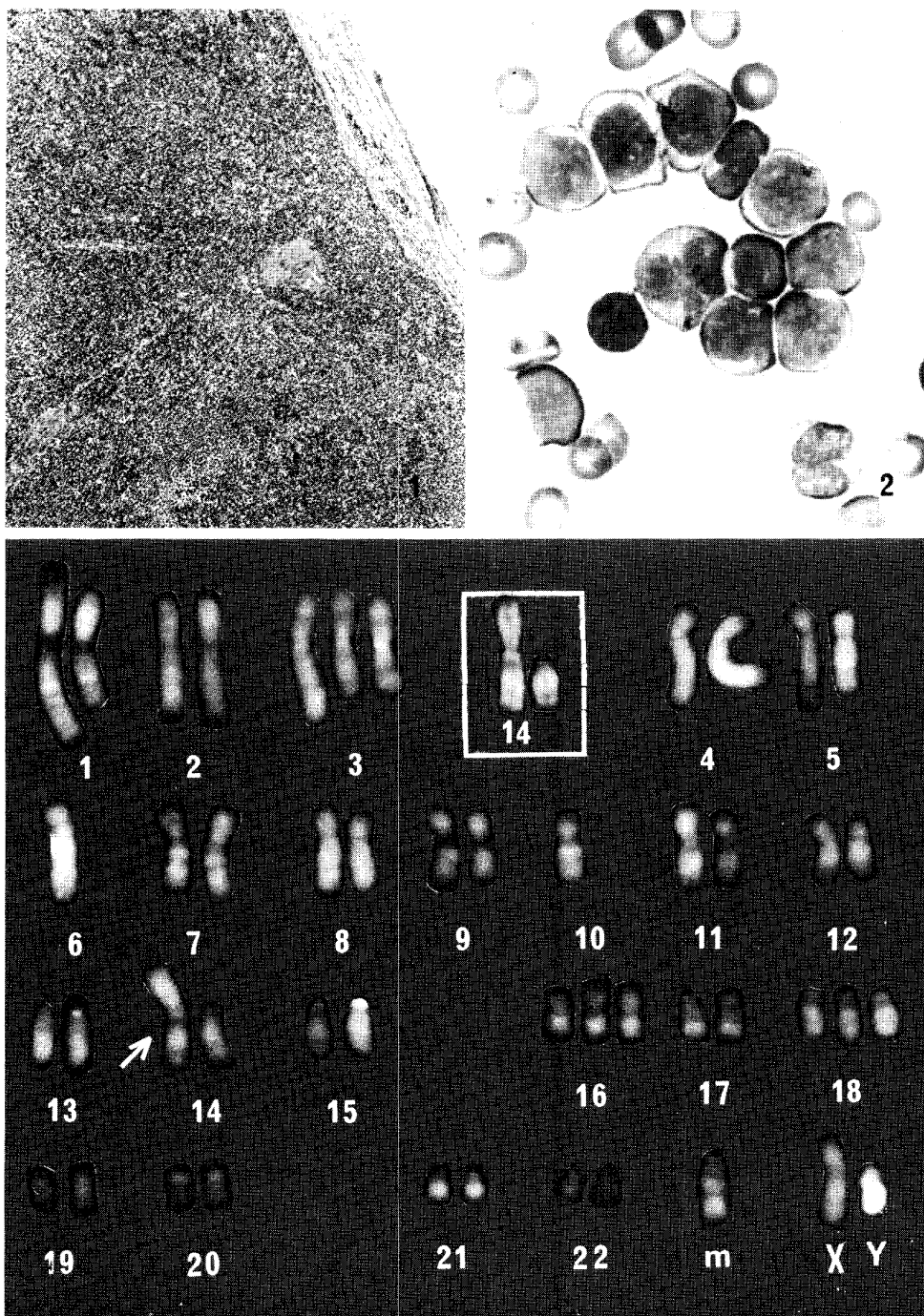
Abstract. Chromosome analysis was performed on cells from a patient of null cell lymphoma, well-differentiated type. A 14q12 translocation was observed in all the banded cells. In addition, there were multiple chromosome abnormalities. This case will be useful in considering the significance of the 14q1(1-3) translocation in malignant lymphoma disease.

Key words : malignant lymphoma, chromosome analysis, 14q12 translocation.

Abnormalities of chromosome 14 have been found frequently in various lymphoid malignancies including conventional malignant lymphomas, African and non-African Burkitt lymphomas (1-3), and immunodeficiency diseases (4-6). The break point was band 14q32 in most cases of lymphoid malignancies (1-3). On the other hand, a band which has another break point, *i.e.*, 14q1(1-3), was reported in some cases such as ataxia teleangiectasia (4-6). Recently, Fukuhara *et al.* described 14q1(2-3) translocation in patients with poorly differentiated lymphoma, histiocytic lymphoma, Hodgkin's disease and T-cell lymphoma (7). The present study describes a 14q12 translocation in a patient with non-Burkitt lymphoma of null cell type.

A 65-year-old man was admitted to the Department of Medicine, Okayama University Hospital, in March 1980 with a diagnosis of malignant lymphoma of diffuse, well-differentiated lymphocytic type (Fig. 1). The patient was treated with adriamycin, Vincristine, endoxan and prednisolone, and complete remission was achieved. Seven months after the first admission, however, the patient relapsed with generalized lymphadenopathy. Treatment with combination chemotherapy was given, but the patient died of leukemic conversion three months after the second admission.

Chromosome analysis was performed on peripheral blood leukocytes after relapse. At that time, the white blood cell count was 42,900/mm³ with 89% of lymphocytes (Fig. 2); the surface marker was of null cell type. Peripheral blood was cultured for 24 h without phytohemagglutinin. Chromosomes were prepared



using the air-dry method, banded with quinacrine mustard, and stained with conventional Giemsa.

The number of chromosomes ranged from 46 to 49 with a bimodal number of 47 and 48. All of 10 banded cells had a 14q12 translocation. The exact origin of extra chromosome material which attached to band 14q12 could not be determined. The main karyotype was 48,XY,1q+,3q+,+i(3p),-6,-10,t(14;?)(q12;?),+16,17p-,+18,+mar (Fig. 3). The marker chromosome appeared to include 14pter→14q12.

In the present study, we demonstrated a 14q12 translocation in a null cell lymphoma, although the origin of the translocated segment could not be identified. In addition, there were multiple chromosome abnormalities as shown in Fig. 3. This case will be useful in considering the significance of 14q translocation in malignant lymphoma disease.

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Fig. 1. A lymph node showing completely effaced nodal structure. H.E., x40.

Fig. 2. Peripheral blood showing a cluster of relatively well-differentiated lymphocytes. May-Grünwald-Giemsa, x100.

Fig. 3. (Below the Figs. 1,2) Q-banding karyotype of a cell: 48,XY,1q+,3q+,+i(3p),-6,-10,t(14;?)(q12;?),+16,17p-,+18,+mar. The arrow indicates a 14q12 translocation. A pair No. 14 from another cell is shown for comparison in the insert.